INFORMATION FOR

CROW CREEK WRF

BIOSOLIDS ANNUAL

REPORT

2015

PERMIT No. WY-SL-2281

Board of Public Utilities

WATER RECLAMTION DIVISON

BOX 1469, 2416 Snyder Ave, Cheyenne, WY 82003 (307) 637-6460
Dry Creek WRF, 8911 Campstool Rd. (307) 635-3163. Fax (307) 635-6833

January 22, 2016

EPA Region 7
ATTN: Biosolids Center
WWPD/WENF
11201 Renner Boulevard
Lenexa, Kansas 66219

DEQ/Water Quality
122 W. 25th Street
Herscehel Building 4Th Floor West
Cheyenne, WY 82002

RE: Biosolids Annual Crow Creek Report Permit No. WYSL - 2281

Biosolids produced in so15 for Crow Creek was Zero.

Crow Creek total gallons in 2015 was 146,349,250 gallons. Check attached sheet.

Jim Hughes Division Manager Dry Creek WRF

Phil Clark Compliance Supervisor Dry Creek WRF

Prepared By: Chet Barkell Program Coordinator; Dry Creek WRF.

PRIMARY CLARIFIERS AND DRUM THICKENERS' SLUDGE PUMPED TO DIGESTER AT THE DRY CREEK WATER RECLAMATION FACILITY IN 2015

MONTH	GALLONS	DMT	%SOLIDS	LBS	Inf. Flow Monthly Average
Jan	921,365	168.70	4.84	371,915	4.70
Feb	911,262	139.27	4.04	307,037	5.03
Mar	1,073,990	145.86	3.59	321,559	5.17
Apr	977,955	141.32	3.82	311,565	6.14
May	934,365	164.01	4.64	361,577	8.86
Jun	934,181	173.87	4.92	383,321	7.80
Jul	952,875	187.81	5.21	414,038	6.97
Aug	943,305	155.94	4.37	343,795	5.70
Sep	950,793	155.74	4.33	343,352	5.63
Oct	1,017,065	167.75	4.36	369,829	6.03
Nov	836,760	135.48	4.28	298,683	5.57
Dec	875,570	132.49	4.00	292,090	5.36
Total	**11,329,486**	**1,868.26**	**52.40**	**4,118,760**	**72.96**
Average	**944,124**	**155.69**	**4.37**	**343,230**	**6.08**

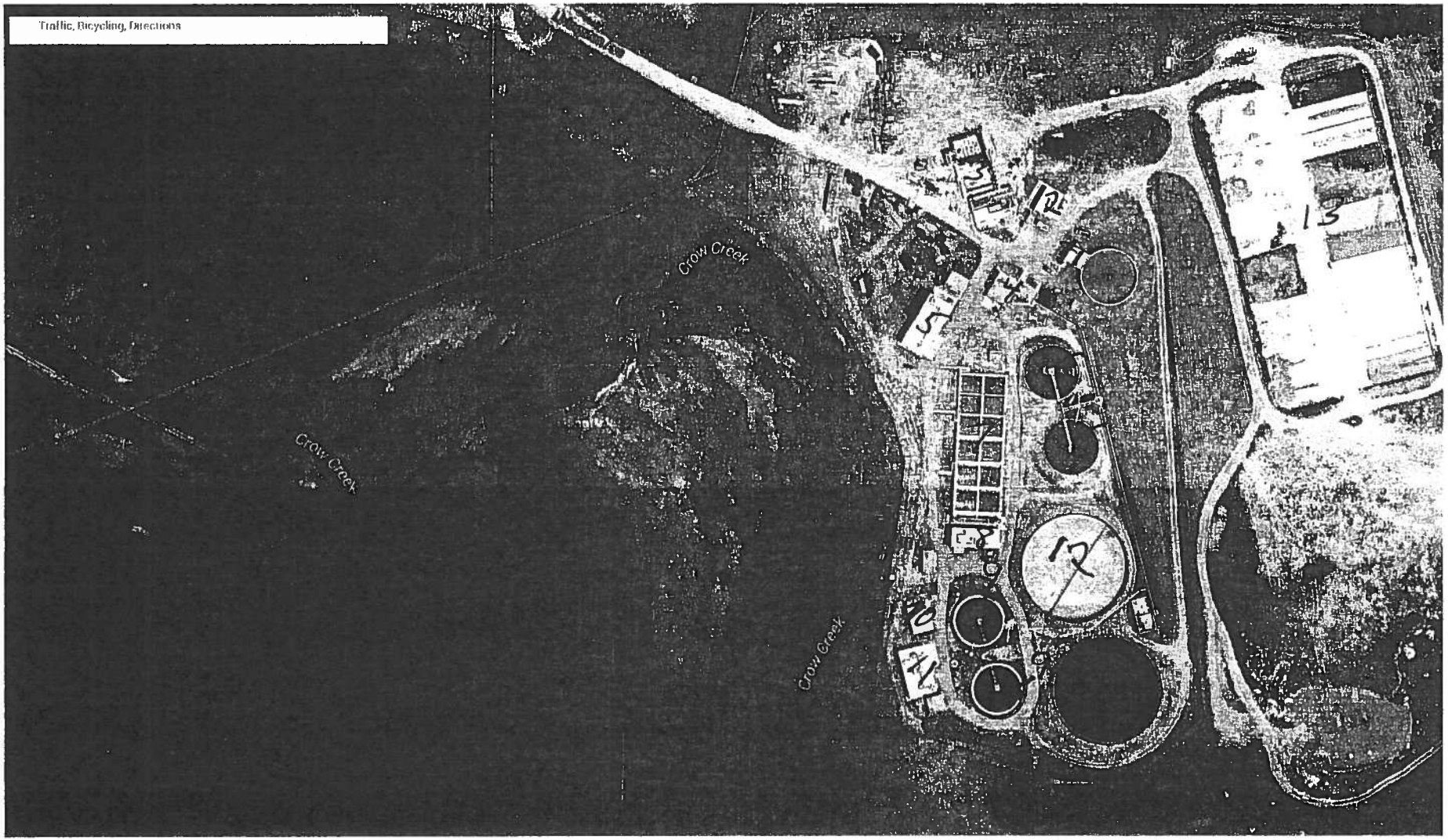
CROW CREEK WATER RECLAMATION FACILITY, PRIMARY AND SECONDARY SLUDGE FROM CLARIFIERS ARE BEING PUMPED TO DRY CREEK WATER RECLAMATION FACILITY TO BE FURTHER PROCESSED. THE SLUDGE IS DISCHARGED IN THE INTERCEPTOR LINE TO DRY CREEK WATER RECLAMATION FACILITY.

THE TOTAL SOLIDS FROM CROW CREEK WATER RECLAMATION ARE CALCULATED AS AN ESTIMATE OF A CONSERVATIVE .2 PERCENT OF SOLIDS.

Crow Creek MONTH	2015 GALLONS	DMT	%SOLIDS	LBS	Inf. Flow Monthly Average	Crow Creek Flow To Dry Creek
Jan	11,912,626	90.13	0.2	198,703	3.05	1.01
Feb	10,523,862	79.62	0.2	175,538	2.73	1.22
Mar	11,730,018	88.75	0.2	195,657	2.62	1.34
Apr	11,493,802	86.96	0.2	191,717	2.63	1.57
May	11,760,509	88.98	0.2	196,165	3.86	2.13
Jun	12,089,786	91.47	0.2	201,658	3.62	1.99
Jul	13,652,847	103.30	0.2	227,729	3.41	1.86
Aug	11,266,920	85.25	0.2	187,932	3.05	1.21
Sep	13,810,958	104.49	0.2	230,367	2.63	1.26
Oct	13,601,059	102.91	0.2	226,866	2.59	1.40
Nov	13,033,266	98.61	0.2	217,395	2.57	1.57
Dec	11,473,597	86.81	0.2	191,380	2.62	2.62
Total	**146,349,250**	**1,107.28**	**2.4**	**2,441,105**	**35.38**	**19.18**
Average	**12,195,771**	**92.27**	**0.2**	**203,425**	**2.95**	**1.60**
Crow Creek	**146,349,250**	**1,107.28**	**2.4**	**2,441,105**	**35.38**	
Dry Creek	**11,329,486**	**1,868.26**	**52.4**	**4,118,760**	**72.96**	
Final Total	**157,678,736**	**2,975.54**	**4.58 Tot. Aver.**	**6,559,865**	**108.34**	

Crow Creek 2015 Labeling Map

1. Old Control building/Digester (out of Service)
2. Influent Pumping station
3. New Control building/New Pretreatment building
4. Old Pretreatment
5. Reuse Building (sand Filters)
6. Primary Clarifiers
7. Anoxic train/MBBR Basins
8. Blower Building
9. Secondary Building
10. UV Building
11. Reuse pumping Building/Sodium Hypochlorite Building
12. Reuse Storage Tanks
13. Drying Beds (Grease, Emerald Effluent, sediment.



Attachment: #4.
Dry Creek Water Reclamation Facility

F. Pathogen reduction is accomplished through anaerobic digestion. The primary and secondary digested sludge is treated in the absence of air for mean cell residence time and temperature between 25 and 35 days at 92 to 100 degrees Fahrenheit. Air dried sludge is obtained with a tractor aerator on paved drying beds and on site unpaved storage area in windrows that are turned approximately once a month dependant on the weather conditions.
The Biosolids production (dry weight) at the Dry Creek WRF is over 1500 metric tons a year. Therefore samples are collected six times a year (February, April, May, June, August, October, and December). The laboratories analyze the dry samples for metals, nutrients, organics pathogens, volatile solids and total solids.

CERTIFICATION STATEMENT

I certify under the penalty of law, that the pathogen requirements in Part I.C.3, the management practices in Part I.D (if necessary) (including the practice in part I. D.13 if the table 4 annual pollutant limits are used) and the site restrictions in Part I.C.2 (if necessary) have been met. This determination has been made under my direction and supervision in accordance with the system designed to assure that qualified personnel properly gather and evaluate the information used to determine that pathogen requirements, the vector attraction reduction requirements, the management practices and the site restrictions have been met. I am aware that there are significant penalties for false certification including the possibility of imprisonment.

Jim Hughes Date: 2-2-16

Jim Hughes, Water Reclamation Division Manger

Attachment: #5.
Dry Creek Water Reclamation Facility

G. Vector attraction reduction requirements are met through anaerobic digestion when there is thirty eight percent or more reduction in volatile solids. Volatile solids destruction is measured weight by volume average ((Vol. Solids Reduction = VS in - VS out / (VS in -((VS in * VS out))(Use Average). The sludge is also air dried in windrows for further vector attraction reduction. The dry solids in windrows are between 65% to 80% total volatile solids reduction before land application.
RE: Flows From: Primary North and Primary South Raw sludge Average: Total solids (change % to Mg/l (10000) (NRS & SRS) :
Total Vol Solids (NRS & SRS): Total C-2 (wasting) cake flow gal: C-1 (digested) Solids (mg/L) cake: C-1 Vol solids cake (mg/L): C-2 solids cake (mg/L): C-2 Vol Solids cake (mg/L) Cake flow from Rotary Drum Thicker to digester.

CERTIFICATION STATEMENT

I certify under the penalty of law, that the pathogen requirements in Part I.C.2, one of the vector attraction reduction alternatives in Part I.C.3, the management practices in part I.D (if necessary) (including the practices in Part I.D.13 if the table 4 annual pollutant limits are used) and the site restrictions in part I.C.2 (If necessary) have been met. This determination has been made under my direction and supervision in accordance with the information used to determine that the pathogen requirements, the vector attraction reduction requirements, the management practices and the site restrictions have been met. I am aware that there are significant penalties for false certification including the possibility of imprisonment.

Jim Hughes Date: 2-2-16
Jim Hughes, Water Reclamation Division Manger

Attachment: #6.
Dry Creek Water Reclamation Facility

H. Best management practices are accomplished by applying biosolids at a whole sludge application rate that is less than or equal to the agronomic rate for the specific site and plant species. The Biosolids are applied so that it does not adversely affect a threatened or endangered species.

Biosolids are not dispersed on sites that are flooded or snow covered, frozen ground with a slope of three percent or more to prevent run off into wetland or surface water. A buffer zone of thirty-five feet from waterways, stock wells, and surface water is observed. Biosolids land applications are prohibited to sites where the available phosphorous content of the existing soil exceeds 400 pounds per acre.

Stored Biosolids on the plant facility remain in windrows for two years or less. The Biosolids are land applied in the winter, spring and fall of the year, weather permitting. Biosolids and soil are analytically tested before disposal. Cheyenne's sludge management practice ensures compliance with both Federal and State parameters and provides for long term Biosolids procedures with little or no detriment to the environment, while enhancing the native grass and field crop production of those participating ranchers and farmers who utilize Biosolids as a fertilizer supplement and soil conditioner.

CERTIFICATION STATEMENT

I certify under the penalty of law that the pathogen requirements in Part I.C.2, one of the vector attraction reduction alternatives in Part I.C.3, the management practices in part I.D (if necessary) (including in the practices in Part I.D.13 if the table 4 annual pollutant limits are used) and the site restrictions in Part I.C.2 (if necessary) have been met. This determination has been made under my direction and supervision in accordance with the system designed to assure that qualified personal properly gather and evaluate the information used to determine that the pathogen requirements, the management practices and the site restrictions have been met. I am aware that there are significant penalties for false certification including the possibility of imprisonment.

Jim Hughes Date: 2-2-16

Jim Hughes, Water Reclamation Division Manger

Attachment: #7.

Dry Creek Water Reclamation Facility

I. Site restrictions are first achieved through the quality of sewage sludge product which has been stabilized to reduce pathogenic organisms, which has been dried to a solids concentration of sixty percentile or greater and contains no hazardous or toxic compounds or chemicals in concentrations which exceed those authorized by the USA EPA REGION VIII and WYOMING DEQ for land application in Part C.1, Specific Limitations and Self Monitoring Requirements and Chemical Pollutant Limitations.

The dry sludge that is produced is class A and B which are applied primarily to range land. Before applying sewage sludge on rangeland, pastureland, farm land, or fields, soil samples have been collected and have had the appropriate soil analysis conducted.

The Class B Sludge with respect to pathogens has been in compliance with the entire site restrictions listed in Part I.C.2. No sludge or material derived from sludge exceeds the limits in Table 3 Part I.C.1. The Class A pathogen reduction limits in Part I.C.2 meets the first 4 vector attraction reduction alternatives in Part I.C.3. There are sufficient management practices used to prevent malfunctions and deterioration, operator errors and discharges which may cause or lead to the release of sludge to the environment, a threat to human health or a nuisance.

CERTIFICATION STATEMENT

I certify under the penalty of law, that the pathogen requirements in Part I.C.2, one of the vector attraction reduction alternatives in Part I.C.3, the management practices in Part I.D (if necessary) including the practice in Part I.D.13 if the table 4 annual pollutant limits are used) and the site restrictions in Part I.C.2 (if necessary) have been met. This determination has been made under my direction and supervision in accordance with the system designed to assure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements, the vector attractions reduction requirements, the management practices and the site restrictions have been met. I am aware that there are significant penalties for false certification including the possibility of imprisonment.

Date: 2-2-16

Jim Hughes, Water Reclamation Division Manger